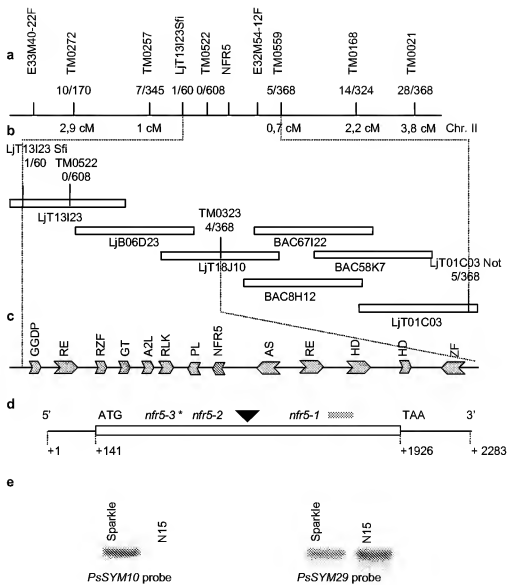


Figure 1



**Figure 2**

**a**



**b**

MAVFFLTSGSLSLFLALTLFTNIAA	SP
RSEKISGPDFSCPVDSPPSCETYVT	51 aa
*	
YTAQSPNLLSLTNISDIPDISPLSIARASNIDAGDKLVPGQVLLVP	LysM1
VTCCGAGNHSSANTS	113 aa
YQIQLGDSYDFVATTLYENLTNWNIVQASNPGVNPYLLPERVKVFP	LysM2
LFRCRCPSKNQLNKIQYLIT	180 aa
YVWKPNNDVSLVSAKFGASPADILTENRYGQDFTAATNLPILIP	LysM3
VTQLPELTQPSSNGRKSSIHL	246 aa
VILGITLGCTLLTAVLTGTLVYVYC	TM
RRKALNRTASSAETADKLLSGVSGYVSKPNVYEIDEI	KD
MEATKDFSDECKVGESVYKANIEGRVVAVKKIKEGGANEEELKILQKV	
NHGNLVKLMGVSSGYDGNCFLVYEYAENGSLAEWLFSKSSGTPNSLT	
WSORISIAVDVAVGLQYMHETYPRIIHRDITTSNILLDSNFKAKIA	
NFAMARTSTNPMMPKIDVFAPGVLLIELLTGRKAMTTKENG EVVMLW	
KDMWEIFDIEENREERIRKWMDPNLESFYHIDNALSASLAVNCTAD	
KSLSRPSMAEIVLSLSFLTQSSNPTLERSLTSSGLDVEDDAHIVTS	
ITAR	595 aa

Figure 2

c

NFR5M1 52: YTAQSPNLLSLTNISDIFDISPLSTARASNIDACKDKLVGCQVLLVP:98  
 SYM10M1 52: YFARSPNLSLTNISDIFDMSPLSIKASNIEDEDKKLVGCQVLLIP:98  
 M.tM1 53: YRAQSPNLSLSNISDIFNLSPLRIKASNIEADEDKKLIPDQLLLVP:99  
 RiceM1 47: YRTQSPGFLDLGNISDLFGVSRALIASANKLTTEDEGVLLGQPLLVP:93

NFR5M2 114: YOIQLGDSYDFVATTLYENLTNWNIVQASNPGVNPYLLPERVKVVP:160  
 SYM10M2 114: YTIKLGDNYPFIVSTTSYQNLTNVYVEMENFNPNLSPNLLPPEIKVVP:160  
 M.tM2 115: YSIKQGDNFFILSITSYQNLTNYLEFKNFNPNLSPTLLPLDTKVVP:161  
 RiceM2 109: YPIPRDITFFGLAVTAFENLTDFVLVEELNFAAEATRLPQWQVVP:155  
 VolvoxM2 106: YTIQPGDTFWAIAQR.RG..TTVDVIOSLNPGVNPRLQVQVINV:149  
 Pfam 1: YTVKKGDTLWKIARR.YG..ISVSELKSLN.GLSSDNLYVGQKLKIP:43

NFR5M3 181: YVWKPNQNVSLVSAKFGASPADILTENRYGQDETAATNLILIP:224  
 SYM10M3 181: YVWQANDNVTRVSSKFCASQVDMFTEN..NONETASTNVILIP:222  
 M.tM3 182: YVWQDNQNVTLVSSKFCASQVEMLAEN..NHNFTASTNRSVLIP:223  
 RiceM3 176: YVWQPCDDVSVVSALMNASAAANIAASNGVAGNSTFATGQGVILIP:219

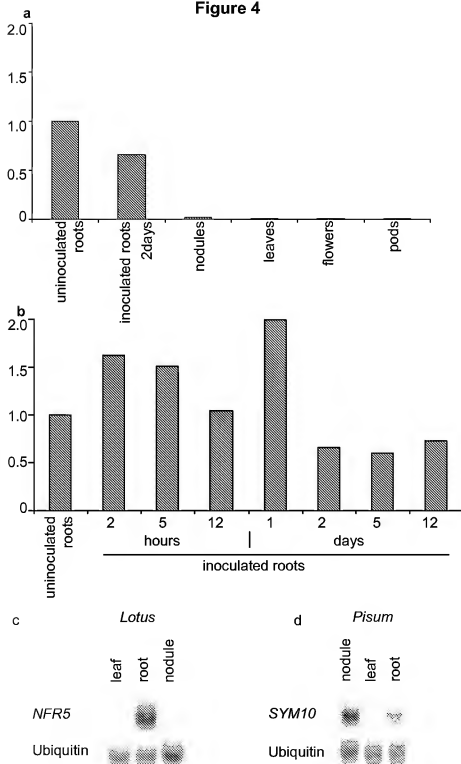
d

	VII	VIII	IX
Cons	... <u>D</u> FG.....	... <u>A</u> PE.....	...D.W..G
Smart 195:	<u>KIADFQLSR</u> ..DLYSDDYKVKGGKLPiRWMA <u>PE</u> SLKEGKFTSKSDVNS <u>FG</u> :248		
Arab 500:	<u>KIANFGVARILDEGDLDLQLTRHVEGTQGYLAPEYVENGVI</u> TSKIDVFA <u>FG</u> :550		
NFR5 448:	<u>KIANFAMARTSTN</u> .....	<u>PMMPKIDVFA</u> <u>FG</u> :472	
SYM10 449:	<u>KIANFSMARTSTN</u> .....	<u>SMMPKIDVFA</u> <u>FG</u> :473	
M.t 450:	<u>KIANFSMARTSTN</u> .....	<u>SMMPKIDVFA</u> <u>FG</u> :474	
Rice 476:	<u>KLSNFSLAKPAAMVD</u> .....	<u>AAATSSDVFA</u> <u>FG</u> :502	

Figure 3

Lotus	10	20	30	40	50	60	70	80
Dea	1	NAVPIPLGSGSLIPALIT	LLPNTIARSGELISADP	SCPTDPPSCPTVTVTAQSPNLSIT	ATNLSIDIT	PLSISARA	79	
M.t	1	NAVPIPLGSGSLIPALIT	PPYTHSAQLOLGSHP	CPDTPSPSCPTVTVTAQSPNLSIT	ATNLSIDIT	PLMSELSARA	79	
		1	NAVPIPLGSGSLIPALIT	PPYTHSAQLOLGSHP	CPDTPSPSCPTVTVTAQSPNLSIT	ATNLSIDIT	PLMSELSARA	80
Lotus	90	100	110	120	130	140	150	160
Dea	80	SNIDSGKIDUCQVLLPPTCCAGHSNANTSV	IOIGHS	TDPIATLYEH	THNHLFASNS	APPVILPEPVKVP	159	
M.t	81	SNIDSGKIDUCQVLLPPTCCAGHSNANTSV	IOIGHS	TDPIATLYEH	THNHLFASNS	APPVILPEPVKVP	159	
Lotus	170	180	190	200	210	220	230	240
Dea	160	PLKSCPEHNOILKIGQV	ITTTWKNNNSL	TSAGKFA	BPADILHNP	QOQPTANL	ILIPITVQL	TELTPQSSMR
M.t	161	PLKSCPEHNOILKIGQV	ITTTWKNNNSL	TSAGKFA	BPADILHNP	QOQPTANL	ILIPITVQL	TELTPQSSMR
Lotus	250	260	270	280	290	300	310	320
Dea	240	X	SGHLLVILGTCGLLTVNL	VTYVTCRSH	ANKTAS	SGFTAKLLS	GVSGTGVKENVH	IDPIMEATIDP
M.t	241	X	SGHLLVILGTCGLLTVNL	VTYVTCRSH	ANKTAS	SGFTAKLLS	GVSGTGVKENVH	IDPIMEATIDP
Lotus	330	340	350	360	370	380	390	400
Dea	320	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF
M.t	321	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF
Lotus	430	440	450	460	470	480	490	500
Dea	420	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF
M.t	421	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF
Lotus	530	540	550	560	570	580	590	600
Dea	520	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF
M.t	521	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF
Lotus	630	640	650	660	670	680	690	700
Dea	620	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF
M.t	621	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF
Lotus	730	740	750	760	770	780	790	800
Dea	720	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF
M.t	721	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF
Lotus	830	840	850	860	870	880	890	900
Dea	820	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF
M.t	821	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF
Lotus	930	940	950	960	970	980	990	1000
Dea	920	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF
M.t	921	ECVGVSTIKAN	LEGVAVIK	IKEGANRE	LKILQVNH	GNLVYLV	SGGIGNC	PLVETATNCSLWLF

**Figure 4**



**a** **Figure 5**

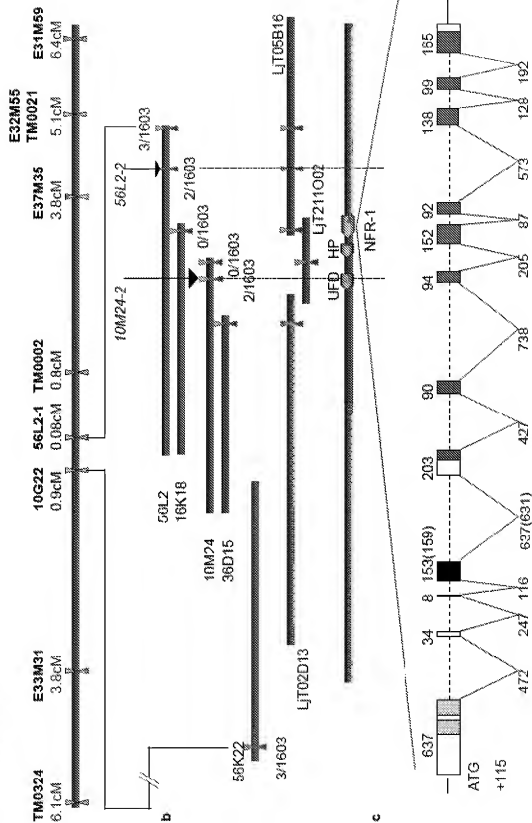


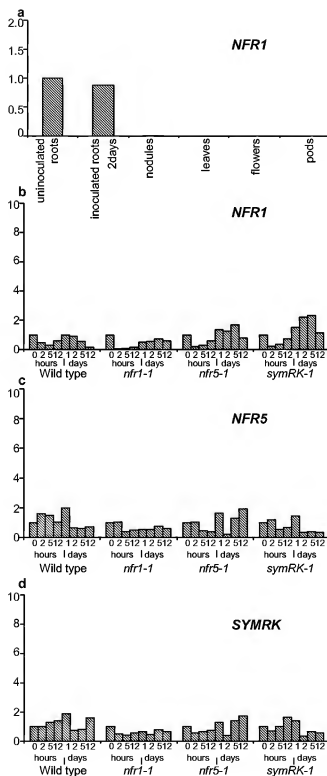
Figure 6a

MKLKTGLLLFFILLGH	SP
VCFHVESNCLKGCDLALASYIILPGVFILQNIITTFMQSEIVSSNDAITS YNKDKILNDINIQSFRQRLNIPFPCDCIGGEFLGHVFE	103
YSASKGDTYETIANLYANLTTVDLLKRFNSYDPKNIPVNAKVNVVT	LysM1
VNCSCGNSQVSKDYGLFIT	168
<u>YPIRPGDTLQDIANQSSLDAGLIQSFNPSVNF</u> SKDSGIAFIP	LysM2
GRYKNGVYVPLYHR	224
TAGLASGAAVGISIAGTFVLLLLAFCMYV	TM
RYQKKEEEKAKLPTDISMALSTQD (GN) ASSSAEYETSGSSGPGTASAT GLTSIMVAKSMESFYQELAKATNN	332 (324)
FSLDNKI <u>GQGGFGAV</u> YYAELRGKKT <u>AIK</u> KMDVQAST <u>EFLCEL</u> KVLTHV	KD
I II III	
HHLNLVRLIGYCEGSLFLVYEHIDNGNLGQYLHGSGKEPLFWSSRVOIA	
IV V VIa	
LDAARGLEYIHEHTVPVYIHRDVKSANILIDKNLRGKVA <u>DFGL</u> TKLIEVG	
VIa VIB VII	
NSTLQTRLV <u>GTFGYMPPE</u> YAQYGDISP <u>KIDVYA</u> FGVVFLFELISAKNAVLKT	621 (623)
VIII * IX	
GELVAESKGLVALFEEALNKSDPCDALRKLVDPRGENYPIDSVLKIAQLG	
*	
RACRDNPLLRPSMRSLVVALMTLSSLTEDCDDSESYESQTLINLLSVR*	
XI	

Figure 6b

SMART0257	YTVKKGDTLSSIA	RRYGISVS--DLEL	NNILDPDNLQVGOKLKIP-
NFR1-M1	104-YSASKGDTYETIANLYANLTTVDLLKRFNSYDPKNIPVNAKVNVVT--149		
At21630-M1	105-YSVRQEDTYERVVAISNYANLTTMESLQARNPFPATNIPLSATLNLVLV-151		
SMART 0257	YTVKKGDTLSSIA	RRYGISVSDILLELNN-ILDPDNLQVG1KLKIP	
NFR1-M2	167-YPIRPGDTLQDIANQSSLDAGLIQSFNP-SVNF	SKDSG--IAFIP-208	
At21630-M2	170-YPLRPEDSLSSIA	RRSGVSADILQRYNP-GVNFNSGNG--IVYVP-211	
BAB89226-M2	168-YAVQDGTGLGNIASLFRSSWKDILDLNPRVANPDFIKPGWILFIP-212		
Volvox M	42-YTIQPGDTFWAIA	QRRGTTVDVQISLNP-GVNPARLQVGQVINVP-85	

Figure 7





**Figure 8**

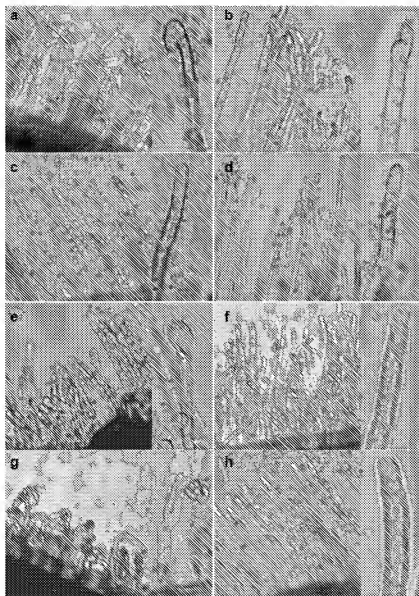


Figure 9

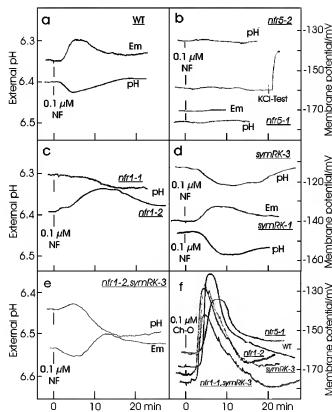


Figure 10

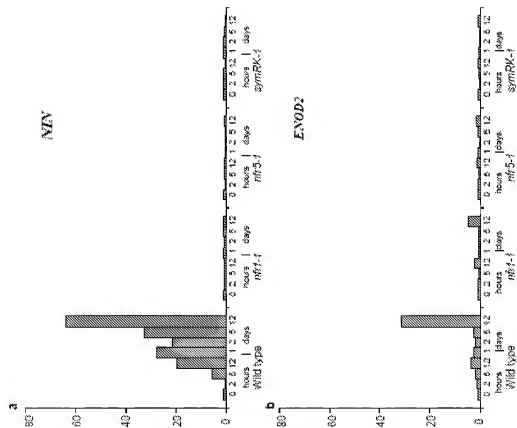


Figure 11

NFR1 1:MK...LKTG...ILLFILLGRVCFHVSNCLAG...C..D..LALASYILL...PGVFLQNIITPQASEIVSSNEAITSINKKILADINIQSPQRL  
 NFR5 1:NAVPELTSGSLSLFLATLFTLTAAREKISGDFGCFVDSFSPSCETIVTTTAQSPNLLSLNIGDIPDISPLSIAEAS...NIDAGK...DELVEG...QVL

NFR1 95:NIPPECKIGICEELGRHVEYSASKEDTETIANLYANLTTVDLLKEFN...SYDEPIHPNKAUVNVWCSGNS...QVSKDYGLFTTPIEPGDTLODIAN  
 NFR5 96:LVPVTCGAGAHSSANT...ETQIQAGDSIDFVATTVYENLTNNINVOASPNFGUNPILLPERKVVPPLCECFSENQLNKSIQILITTVWEPHENTVSLVSA

NFR1 183:QSSLDAGLIQSPN...PSVNFPSKDSGI...APIPGRYRNGYVPLVPHFTAGLGAAGISIASTVVLALLAFQNVYQKTEEEKAKLPDIDISMAISTQDASS  
 NFR5 195:EPGASPADILTENXYQDFTAATNPLILP...VT...QLPELTOPS...SNGRKS...SIHLAVILGILTGCTLL...TAVLTGTLVAVYCRKKAAN...ETASS

NFR1 281:SAEYETSSSSQPCSTASATGTSIINWAKSMHEFYQELAKATNNFSLDNKIQQQSPRAVYVLAELGKKTAIKKMDVQASTFELCELVZLHVHHLNVLVLIG  
 NFR5 283:ABTACKLISG...VSGY...YSKPNVBIDEIMHATKDFSECKVGS...YKANIEGRVAVAKIEGSANE...ELKILQVNHGHLVLMG

NFR1 381:YC...VERSELEFVTEHIDNENLQXVILHG...SKEP...LPWBSRVQIALDAARGLEVYHHHTVPVYVHREYKSNANILIDNOLGCKVAPDSHTKLIVGNSTLQ  
 NFR5 367:YSSGIDGNCFLVTEYAENGSLAEWLFSESGTNSLTWSORISIAVDVAGLQTMHEHTYTRIHEIDITTSNILLDSTFKAKIANFAMAE...TET...

NFR1 476:TELVTGFTGYMPPEYACGDISPKIDVYAPQVYVPELLSANNVLL...KTGELVASEKQVVALFEALNKSQCDALRKLVTPELGSNEYFIDSVKIAQLGR  
 NFR5 459:.....NP.....HMPKIDVAPQVLLIELLTGRKAMTKREGEVYVLMKMDHWEIPIENR...BERIEKKMDPENLESFYHIDNALSIASLAV

NFR1 574:ACTPDNELLSPSMESLWVALMTLSLTERCDKRSYES.....QTLNILLSVR  
 NFR5 540:ICTADELSLSPSMESLWVALMTLSLTERCDKRSYES.....QTLNILLSVR

Figure 12

Protein domain structure of *Lotus japonicus* NFR1 and NFR5 proteins and of the hybrid proteins

